

## **IMPLEMENTING QUALITY MANAGEMENT SYSTEM IN A SEAFOOD**

### **EXPORTING FIRM**

**SMITHA NAIR**

Prathibha, Ushus Avenue, Pallippuram, Palakkad, Kerala, India

### **ABSTRACT**

Seafood exporting firms are facing great fluctuations in market prices due to changes in raw material availability, seasonal trends, impact of diseases on culture farms, own country and buyer country regulations etc. To survive and become market leaders, seafood exporters need to adopt competitive advantages, which would set them apart from the rest of industry. Implementing a Quality Management system (ISO 9001:2008) is one such competitive advantage. This paper therefore examines the implementation process of QMS within a seafood exporting firm with respect to the clause-wise ISO 9001:2008 guidelines.

**KEYWORDS:** Quality Management System, ISO 9001:2008, Seafood Exporting

### **INTRODUCTION**

Seafood exporting firms are functioning in a dynamic environment. Regulatory changes in own country and buyer countries, supply chain changes, changing customer demands, availability of raw material, seasonal fluctuations, disease afflictions in fish farms etc are all contributing to make seafood exporting a risky and uncertain business. Firms therefore are constantly on the lookout for developing competitive advantages over other firms in the areas of product and process quality, cost lowering and resource utilization. The implementation of quality management system (QMS) standards is one such competitive advantage for seafood exporting firms. The present paper deals with a case study involving ISO 9001:2008 implementation in a seafood exporting firm.

### **QMS IMPLEMENTATION PROCESS**

The Scope of the Quality Management System is processing of high quality fish for exports and local consumption. The company, started operations in early 2007 and exports fresh tuna loins and frozen tuna steaks to the world markets. The company has established, documented and implemented a QMS, which is maintained and continually improved, in accordance with the dual requirements of ISO 9001:2008 and Hazard Analysis Critical Control Point (HACCP). The HACCP manual details the quality management system implementation. All Standard Operating Procedures and Critical Control Points have been detailed in the HACCP Manual. The Quality Assurance Plans show the decision tree for the implementation of the quality system. Significant hazards have been identified; their critical limits have been set, along with the monitoring parameters such as what criteria, how it is monitored, frequency of monitoring and the person responsible for it. The records show the details of the monitoring of each CCP and the verification of the process. The HACCP plans for each product have been detailed in the HACCP manual. Validation of the system has been done by the regulatory agency of the country, the Food and Drug Administration. The HACCP based quality management system is founded on the underlying principles of EEC Directives, FAO norms, WHO norms and the ISO 9001:2008

principles. The Management Representative is responsible for evaluating the QMS through internal audits and documentation reviews and reporting the results of the evaluation, as well as the status, adequacy, and effectiveness of the system at a management review meeting. To implement the QMS, the company has:

- Identified the processes needed for the QMS and their application as detailed in Section 7.1. Product Realization.
- Determined the sequence and interaction of these processes as detailed in Section 7.1.
- Determined the criteria and methods required to ensure the effective operation and control of these processes detailed in 7.5.1. Production and Service Provision.
- Ensured the availability of resources and information necessary to support the operation and monitoring of these processes as detailed in Section 6.1. Provision of Resources.
- Ensured that purchased products conform to specified purchase requirements, necessary purchasing information describes the product to be purchased and verification of the same as detailed in Section 7.4.1.
- Monitored, measured, and analysed these processes as detailed in Section 8.2. Monitoring and Measurement
- Implemented actions necessary to achieve planned results and continual improvement as detailed in Section 8.2. Monitoring and Measurement, and Section 8.5. Improvement.

## **DOCUMENTATION REQUIREMENTS**

### **General**

The QMS documentation includes:

- Quality Policy, which is documented in Section 2 and the Quality Objectives, which are documented in Section 5.4.1. Quality Objectives.
- The QMS in total represents the Quality Plan the company uses to achieve conformity of products and services.
- This Quality and Procedure Manual which contains the documented Procedures, Process Charts, Work Instructions/Standard Operating Procedures and Formats, required by ISO 9001:2008.
- Quality records, as required by the QMS and ISO 9001:2008 requirements, to provide evidence of conformity to requirements and of the effective operation of the QMS.

The following figure shows the Process Map details the implementation of the Quality Management System.

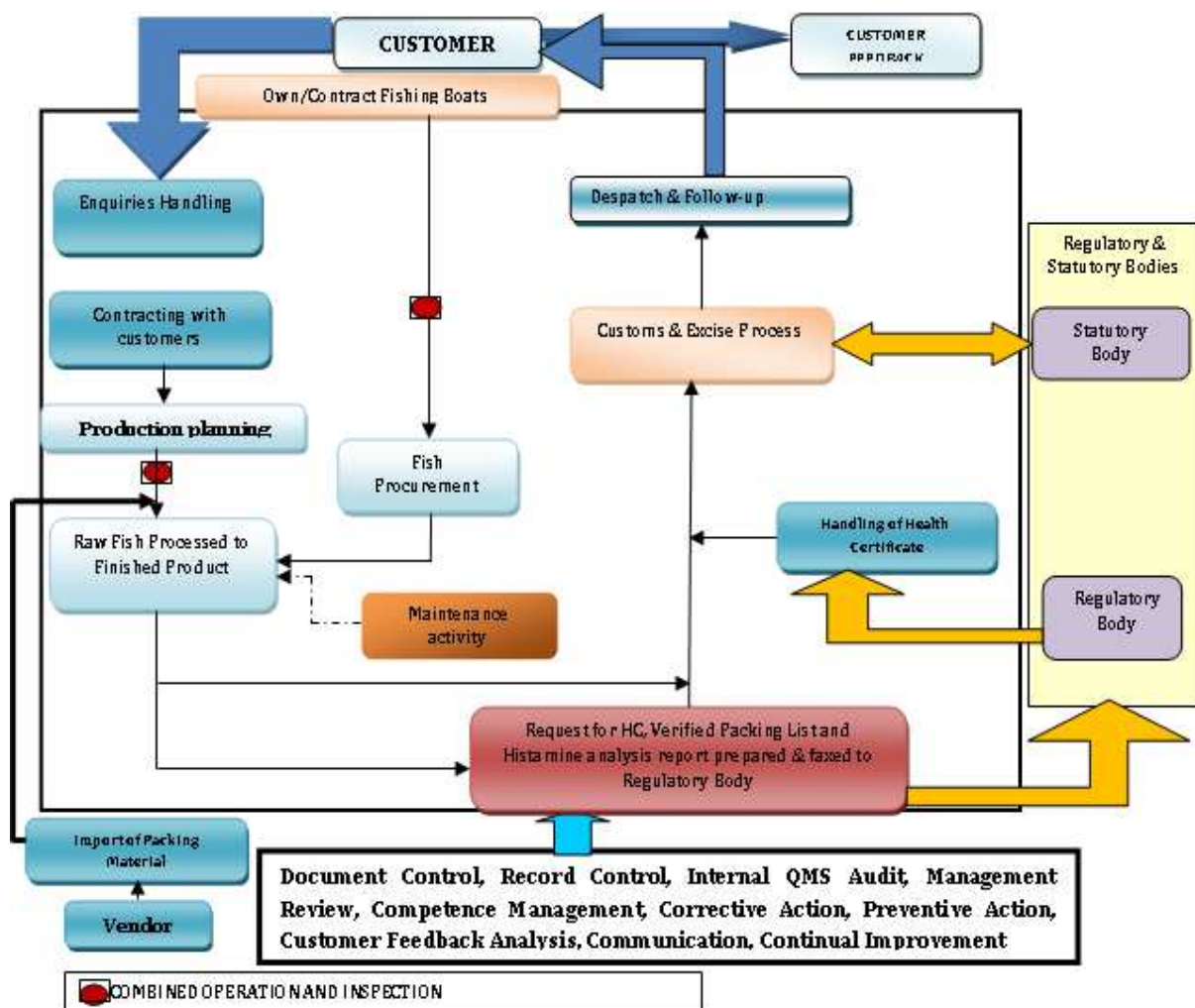


Figure 1: Process Map for Implementation of ISO 9001:2008

### Structure of Documentation

The documented Quality System consists of five tiers. The first level documentation is the Quality and Procedure Manual, the second level being Procedures, the third level being Process Charts, the fourth level being Work Instructions/SOPs & the fifth being formats.

### Quality and Procedure Manual

The Quality and Procedure Manual is a document that addresses the ISO 9001:2008 standard requirements. The intentions of the Management with respect to these requirements are documented. The Quality and Procedure Manual shall be used to give directions to the Personnel within the Organisation.

### Procedures

Procedures are guidelines, which define the activity, responsibility, record generated and any reference document to be referred. Procedures are laid out for Document control, Record control, Internal audit, Control of non-conforming products, Corrective action, Preventive action, Management Review & Customer Satisfaction Measurement. These procedures are applicable to all functional areas.

### **Process Charts**

Process charts are documents, which is a subset of the process map. These documents define the process steps, Inputs to the process, Outputs from the process, Responsibility, Critical Control Points & Metrics.

### **Work Instructions/SOPs**

Work Instructions/SOPs are instructions to a specific activity, which helps the person to do a job consistently and according to the requirements. Work Instructions/SOPs are identified based on the expertise in the Organisation, level of Systemisation and certain critical processes. Individual Work Instructions/SOPs are made available at the work place.

### **Formats**

To ensure consistency in collecting data as per requirements, formats have been prescribed. These formats are uniquely numbered and controlled. The approval of these formats is with the approval of respective procedures / process charts.

### **List of Procedures**

The list of procedures include Document Control, Record Control, Internal Quality Audit, Control of Nonconforming products, Corrective action, Preventive action, Management review, customer satisfaction measure, competency management.

Process charts include enquiry handling, contracting, fish procurement from boats, production planning, processing of fish, request for health certificate, handling of health certificate, customs and regulatory process, despatch and follow-up, maintenance activity, and import of materials

### **Quality and Procedure Manual**

The QMS is established, maintained and documented in the Quality and Procedure Manual. This Manual includes the Scope, the procedures, the process map etc.

## **MANAGEMENT RESPONSIBILITY**

One of the most important factors necessary for proper implementation of QMS is management responsibility and commitment. Management has installed a quality management system in line with ISO 9001:2008 in the organisation. The quality management system has been designed to meet the following:

- Customers' satisfaction.
- Statutory / regulatory requirements needed for the product.
- Management requirements.
- Employee satisfaction.
- The management is committed to review the performance of the quality system and focused on continual improvement. Evidence of its commitment is reflected in:
- The Quality Policy, which is displayed prominently in the Office and Factory premises and the effectiveness of its implementation, is monitored at regular intervals,

- The establishment of Quality Objectives,
- Conduct of Management Reviews with MD as chairman, every six months,
- Ensuring availability of resources based on the management review committee recommendations, to ensure compliance to the quality policy.
- The MD communicates the importance of meeting customer requirements, statutory /regulatory requirements needed for the product & management requirements to all employees through regular meetings with the functional heads. The functional heads in turn are responsible for the downward dissemination of the quality awareness, and
- Key Performance Indicators (KPIs) and Performance Indicators (PIs) have been identified. Targets are fixed for specific periods & reviewed regularly for compliance.

### **Customer Focus**

MD is responsible for identifying customer & market requirements. Based on the discussions in the management committee, new customer acquisition/market development is taken up. The motto of the company is to demonstrate value to the customers. Customer satisfaction is of utmost importance to the Company, which is proactively being measured as Key Performance Indicators & is an input for continual improvement.

### **Quality Policy**

The company would strive to be a model organization in providing high quality fish to our international and local customers, on time, and would continually improve management practices to encourage stakeholders and employees ensure that this goal is consistently achieved.

### **Planning**

This document details the responsibility of the management to ensure that quality objectives as well as the quality processes are planned, established, and reviewed throughout the organization. Quality planning is an integral part of the QMS and essential to ensure continual improvement of the products provided to the customers. The company has identified & defined processes for procurement, processing and trading of fish & fishery products. These processes have been implemented in the organization and fine tuned to meet the market & management requirements.

### **Quality Objectives**

To fulfil the Quality Policy, the following Objectives have been incorporated:

- Working proactively with customers to deliver their needs,
- Understanding and responding to our customer needs,
- Promoting a culture of continuous improvement for our staff to develop and maintain their professional skills and self-esteem,
- Maintaining the highest levels of customer satisfaction ratings and
- Improve the sales growth level.

## KEY PERFORMANCE INDICATORS

The KPIs are as detailed below:

**Table 1**

Sl. No	KPI / Objective	Unit of Measurement	Frequency of Review	Target Setting
1	Customer Satisfaction	Percent	Half Yearly	Financial Year
2	Responding to Customer needs	Number	Monthly	Financial Year
3	Sales Growth Rate	% Increase in Sales	Half Yearly	Financial Year
4	Compliance to regulatory & statutory requirements	No. of non compliances	Half Yearly	Financial Year
5	Culture of continuous improvement	No. of completed preventive and corrective actions	Half Yearly	Financial Year

### Quality Management System Planning

The QMS is planned in order to ensure the requirements stated in Section 4.1 General Requirements as well as the quality objectives are met, and the integrity of the QMS is maintained when changes to the QMS are planned and implemented. This specifically relates to continual improvement, which is identified in Section 8, Measurement, Analysis and Improvement. This planning normally takes place at the management review. Data presented at the management review is used to provide input for quality planning and continual improvement. The overall business processes are defined and sequenced to give optimum results. The interaction of these processes are managed effectively to ensure an efficient & effective business. Methodologies for execution of these processes are clearly defined and implemented. Criteria for controls and decision making are defined and executed. Resources required to Manage and control these processes viz. Financial, People and Infrastructure is provided. The information flow is clearly established so as to enable timely communication. Metrics have been identified and monitored on a periodic basis to ensure that the processes are being performed at optimum levels of performance. Decision to take suitable actions to improve performance of processes and business results would be taken after periodic reviews on performance of processes and quarterly management reviews. Resources would be provided to ensure that these actions are implemented timely and effectively. Sufficient controls are exercised on the outsourced activities as well. The quality of the output is checked and verified before accepting the product or service. The outsourced activities are reviewed for suitability once a year by rating the vendors. Any changes to the Quality Management System would be effected only after reviewing that the change would not affect the sanctity of the QMS. The Quality Assurance Plan which represents the total Quality Management System for the Loin and Steak Products are as represented below.

## RESPONSIBILITY, AUTHORITY AND COMMUNICATION

### Responsibility and Authority

The company's Top Management ensures that responsibilities and authorities are defined and communicated within the organization. The Organizational Chart clearly delineates the line of control and reporting patterns, and the overall authority of a person in the organization.

## Internal Communication

The management has ensured that appropriate communication processes are established within the organization and that communication, regarding the effectiveness of the quality management system, takes place. Various communications needs within the organisation have been identified by process charts. Specific information or requirement is communicated through e-mail or staff meetings. These communications are listed by each function in a communication matrix, and covers record information, recipient of information, mode of communication, responsibility, frequency and time frame.

## MANAGEMENT REVIEW

### General

Management Review meetings shall be conducted at least twice in a year. The meetings shall be convened by the Management Representative and chaired by the MD. The Review committee consists of the MD –Chairperson, the Management Representative-Convenor and all Functional heads who come under the scope of ISO 9001:2008. As the occasion rises, any other personnel could be invited for the meeting. The review shall determine the continued suitability, adequacy, and effectiveness of the QMS in satisfying requirements of the company and ISO 9001:2008. This review shall include assessing opportunities for improvement and an evaluation of the need for changes to the QMS, including the Quality Policy and objectives.

### Review Input

The input to the management review may include, but is not limited to, current performance and improvement opportunities related to the following:

- Results of Internal and External Audits
- Customer Feedback
- Process performance and product conformity
- Status of preventive and corrective actions
- Follow-up actions from previous management reviews
- Changes that could affect QMS, and
- Recommendations for improvement

### Review Output

Output from the management review may include, but are not limited to, any decisions and actions related to:

- Improvement of the effectiveness of the QMS and its processes
- Improvement of product related to customer requirements, and
- Resource needs.

Corrective Actions identified from these reviews are implemented by the relevant Department Manager responsible. Records of such reviews are maintained in accordance with Section 4.2.4., Control of Records.

## RESOURCE MANAGEMENT

### Provision of Resources

Provision of management resources within The company is the responsibility of senior management. Identification of required resources within departments is the responsibility of department managers. Resources may be classified as Finance, Manpower, Equipment and Infrastructure. Factors affecting the allocation and provision of resources by senior management include:

- Implementation, maintenance, and continual improvement of the effectiveness of the processes of the QMS
- Enhancement of customer satisfaction by meeting the customer requirements.

Determination of such resources normally takes place during the management review as described in the Section 5.6., Management Review.

## HUMAN RESOURCES

### General

All personnel of the organisation are competent to carry out assigned work either by training, education, skill or experience.

### Competence, Awareness & Training

The organization has taken the following steps:

Specific requirements for each job are defined in the job description for that task. Skill matrix is prepared covering all functions. The Skill matrix reflects the necessary traits needed for each job and the rating of each employee reflects his/her performance. The gap analysis reflects the need-based training needed. Training plans are identified based on the requirements & necessary training is imparted to ensure the competency requirements. The Training Calendar shows the dates on which formal training will be conducted for the employees. During subsequent skill inventory, the effectiveness of training is reviewed & suitable action is initiated. All new entrants to the company are put through Induction Training to impart necessary skills. Also, the periodic training sessions conducted, are aimed at sustaining quality and competence of personnel. These trainings ensure that the personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives. These trainings are also targeted at improving the awareness of the employees regarding concerned processes, metrics, & KPIs'. Appropriate records of education, training, skills and experience are maintained.

### Infrastructure Facilities

The organisation has determined, provided and maintained the infrastructure needed to achieve conformity to product requirements and to meet the prescribed quality standards. Infrastructure includes buildings, workspace and associated utilities, process equipment (both hardware and software), and supporting services (transport and communication).

Continuous reviews take place for up-gradation and improvements. Based on the review, the nominated officer will give report for feasibility of the project to MD. All equipment is maintained in a periodic manner as per the maintenance plan. All the external supporting service providers / vendors are evaluated periodically and put in the approved vendor list. All subcontracted activities will be reviewed & monitored in Management reviews for their

effectiveness & quality service/standard. The organisation has provided necessary work stations / storage facilities at essential places. The internet facility is also available for technical support by mails/website. The company group mail in the Outlook Express ensures that all communications are conducted in a regular, efficient and fast manner.

### **Work Environment**

Work environment necessary for product conformity is maintained. The Management realises that the key to achieving “Total Customer Satisfaction” lies with a happy and contented workforce. In pursuit of this objective, Management has created a very dynamic and vibrant work environment, where consensus reigns, constructive dissent is welcome, and camaraderie is pervasive. Physical factors that affect the work environment include indoor temperature, light, noise, humidity, fresh air circulation, standard of housekeeping, and sanitation. The company management takes care to ensure that these factors are well within the determined statutory requirements.

## **PRODUCT REALISATION**

### **Planning of Product Realization**

The organization has planned and developed the processes needed for product realization. Planning of product realization shall be consistent with the requirements of the other processes of the QMS. Product realization is the sequence of processes and sub-processes required to achieve the product. The major processes that apply to The company are identified in the Process Charts.

In planning Product Realization, the organization has determined the following:

- Quality Objectives and requirements for the product,
- The need to establish processes, documents, and provide resources specific to the product,
- Required verification, validation, monitoring, inspection and test activities specific to the product and the criteria for product acceptance,
- Records needed to provide evidence that the realization processes and resulting product meet requirements.

## **CUSTOMER RELATED PROCESSES**

### **Determination of Product-Related Requirements**

The organization has determined the following requirements:

- Requirements specified by the customer, including the requirements for delivery and post-delivery activities,
- Requirements not stated by the customer, but necessary for specified or intended use
- Statutory and regulatory product requirements, and
- Other additional requirements determined by the organization.

**New Customer:** The potential customers are identified and the details of the company and products are informed to them. Based on the interest indicated, a meeting is proposed where in commercial details are discussed. A trial Purchase Order (PO) is sought which details the Product description, quality of the product, quantities, delivery time and price. Based on the trial PO, a sample shipment is delivered with necessary approvals. The acceptance of the sample shipment would be considered as meeting all the requirements of the customer.

**Existing Customer:** The existing customer enquires for a particular product, quantities and delivery period either by Fax / E-mail / Phone. The completeness of the requirements are ensured before any reply or commitments are made.

### **Review of Product Related Requirements**

The organization reviews all product related requirements. The review is conducted prior to the organization's commitment to supply a product to the customer (i.e. issue of Purchase Order) and ensures that:

- Product Requirements are defined
- Order requirements differing from those previously expressed are resolved, and
- The organization has the ability to meet the defined requirements.
- Records of the results of the Review and actions arising from the Review are maintained.

**New Customer:** Based on the acceptance of the trial shipment, the customer places a full fledged Purchase Order. The PO is reviewed for completeness with regard to Product description, quantities, Delivery dates and price. The Management verifies that all the regulatory compliances are in place before accepting the order.

**Existing Customer:** The company Factory, Boats & Chartered vessels are involved in reviewing the requirements of the customer before a commitment is made to the customer. The review includes the Product, quality requirements, quantities & delivery dates. The Management verifies that all the regulatory compliances are in place before accepting the order.

### **Customer Communication**

Customer communication is a very important activity for the organisation. To ensure fast & effective communication, all modes of communication are used namely, verbal, fax, letters, mails, personal visits, etc. The organization has thus determined and implemented effective arrangements for communicating with customers in relation to product information, enquiries, contracts and order handling, and, customer feedback, including customer complaints.

Uncontrolled copy of Quality and Procedure Manual may be used to communicate details about quality management system. Brochures and website is used to provide information about the company, infrastructure & products offered. There is a constant endeavour to meet customer expectations by initiating appropriate actions based on feedback received, as per Section 8.2.1. – Customer Satisfaction. Customer Feedback Tracker Forms are collated and analysed by the Management Representative and form an important input to Management Review. Customer complaints received by the company will be registered & will be handled by concerned personnel & will be tabled in the Management Review meetings. Actions are initiated with due urgency on any negative feedback from the customers.

### **Design & Development**

This section is excluded from this QMS as the company provides products and services to customer specification only. There is no in-house design or development work. However, when the clause becomes relevant, the same will be addressed.

## **PURCHASING**

### **Purchasing Process**

The organization has ensured that the purchased product conforms to specified purchase requirements. The type and extent of control applied to the supplier and the purchased product is dependent upon the effect of the purchased product on the final product. The purchasing activity is divided into two kinds, one being products and other being services. The products purchased include fish, packaging material, chemicals etc, which are imported. An approved list of vendors is available. The requirement for imports is defined on the basis of the material description, quality requirements, quantities, delivery dates, price and any other important criteria. A Purchase Order is released to the vendor who supplies the material. On receipt of material at the airport or the seaport, the material is collected after completion of necessary custom processes. Based on the order received for exports, the chartered vessels and boats are informed about the quantities and qualities of the fish that are required. The chartered vessels and boats supply the catch to the The company jetty. The freshness of the fish needs is ensured. Basic tests are conducted on the fish at the jetty, before the same is accepted. The information about the quality and the quantity delivered is passed onto the office wherein payments are made to the chartered vessels and boats. The services include the product microbiological testing, water and ice testing, sanitary hygiene etc, done by the Food and Drug Administration (FDA), the regulatory agency of the country. A vendor rating process for purchase of products is in place wherein the vendors are evaluated for performance once a year. The organization evaluates and selects suppliers based on their ability to supply product in accordance with the organization's requirements. The Vendor Evaluation Form shows the criteria for selection, evaluation and re-evaluation. This Form is filled out by the Purchasing Officer for all the vendors supplying products to the firm. The rating of the suppliers is done and the decision is taken regarding which suppliers are to be retained. Records of the evaluations and any necessary actions arising from the evaluation are maintained in the Vendor Evaluation File.

### **Purchasing Information**

Purchasing information describes the product to be purchased, such as

- Requirements for approval of product, procedures, processes and equipments, and
- QMS requirements

### **Verification of Purchased Product**

The company has established and implemented an inspection procedure for verifying that purchased products meet the purchase requirements specified. The storekeeper inspects whether the purchased products are as per specified requirements and it is verified by the QA Department.

## **PRODUCTION AND SERVICE PROVISION**

### **Control of Production and Service Provision**

The organization plans and carries out production and service provision under controlled conditions. Controlled conditions include the availability of information that describes the product characteristics, the availability of Work Instructions, the use of suitable equipment, the availability and use of monitoring devices, the implementation of monitoring and measurement and the implementation of release, delivery and post delivery activities.

**Validation of Process for Production**

All processes mentioned have been validated. The arrangements for validation includes the review of the customer provided reports evaluating the product/service provided, as well as the audits conducted of the whole process chain by external auditors which include statutory/regulatory organizations like the Food and Drug Authority (twice a year validation) and buyer audits, third party audits, as well as internal audits. The validation demonstrates the ability of the processes to achieve planned results. The organization has established arrangements for these processes including defining criteria for review and approval of the processes, approval of equipment and qualification of personnel, use of specific methods and procedures, requirements for records, and revalidation.

**Identification & Traceability**

The organization has identified the product by suitable means through product realization. The product status is identified with respect to the monitoring and measurement requirements. Product traceability has been identified and recorded. Every sale of a consignment is traced to an invoice number and customer. The invoice numbers are traced to a fish number which in turn can be traced to a boat and hence to the fishing zone. The Traceability can be through various documents like Invoice, packing list, QC reports, inward registers.

**Customer Property**

This clause is not applicable to the organization at present. However when the clause becomes relevant the same will be addressed.

**Preservation of Material**

Storage conditions are ensured by boats and chartered vessels to ensure freshness of fish. On receipt of fish at the Factory, suitable storage conditions are maintained. Required hygiene conditions are maintained during processing and storage. The consignment is properly handled and stored during transit to airport & at the airport.

**Control of Monitoring & Measuring Devices**

This clause is not applicable to the organization at present. However when the clause becomes relevant the same will be addressed.

**MEASUREMENT, ANALYSIS AND IMPROVEMENT****General**

**Key Performance Indicators:** Quality objectives / KPIs are identified in the organisation. KPI matrix is maintained which gives details of the KPI, unit of measurement, sources of data, responsibility of review, frequency of review & target. Wherever possible, probable savings in value will be identified. The KPIs are identified to monitor, measure, analyse & to improve processes w.r.to conformity of the product, conformity of the quality management system, continual improvements and effectiveness of quality management system. The monitoring of KPIs is done by using trend charts & which will be displayed, at identified places.

## Monitoring and Measurement

### Customer Satisfaction

The customer satisfaction is considered as one KPI and reviewed on regular basis with respect to different criteria, viz., quality rating, delivery performance, and responsiveness. Customer ratings are sought on regular basis on satisfaction criteria. These ratings are analysed and steps are taken to further improve customer ratings. Even where customer ratings are already high, steps are taken to maintain and further enhance the same.

### Internal Quality Audit

Audits are planned at a frequency of 6 months and revised based on status & importance of the activity. Auditors are nominated to specific functions, which is decided well in advance and intimated to the auditees. The list of internal auditors is maintained, approved and updated. The criteria for selection of auditors include their education, experience, and knowledge about the systems for which audit is being conducted. Management representative before audit gives auditors specific process charts. The auditor prepares a checklist in a standard format, which she uses during the audit. Trained people who shall follow the documented procedure perform audit activity. Auditor after finishing the audit raises non-conformance report (CAR) against the auditee in case of non-conforming situations. The auditee function is to take corrective / preventive action which is audited by the auditor for effectiveness & close the NCs.

## MONITORING AND MEASUREMENT OF PROCESSES

The organization has employed suitable methods for monitoring and where applicable measuring the quality management processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, corrections and corrective actions are taken, to ensure conformity of the product. The Table of Metrics given below lists the processes, metrics, department, units of measurement, frequency of review and period.

### TABLE OF METRICS

Table 2

Sl. No	Processes	Metrics	Department	Unit of Measurement	Frequency of Review	Period
1	PC/01	Sales Growth Rate	Marketing	Percent of Sales Growth	Monthly	Financial Year
2	PC/02	Hit rate Cycle time	Marketing	# of enquiries converted Time from enquiry to order	Monthly	Financial Year
3	PC/03	Stock outs	Purchasing	# of stock out situations	Monthly	Financial Year
4	PC/04	Variance analysis	Purchasing	% variance between plan & actual	Monthly	Financial Year
5	PC/05	Effectiveness of maintenance	Maintenance	# of breakdowns # of repetitive breakdowns	Monthly	Financial Year
6	PC/06	Hit Rate	Maintenance	Percent of maintenance complaints handled satisfactorily	Monthly	Financial Year
7	PC/07	Percentage Yield	Production	Percentage Yield from Loin Production	Monthly	Financial Year
8	PC/08	Percentage Yield	Production	Percentage Yield from Steak Production	Monthly	Financial Year
9	PC/09	Compliance to Customer Specifications	Quality Assurance	Number of Quality Non-Compliances/ Complaints	Monthly	Financial Year
10	PC/10	Audits	Quality Assurance	Number of Non-Conformances Reported	Monthly	Financial Year

**Table 2 – Contd.,**

11	PC/11	Cycle Time	HR	Time taken for recruitment process to be completed	Monthly	Financial Year
12	PC/12	Delay in handling personnel matters	HR	Number of personnel matters handled beyond 1 day	Monthly	Financial Year
13	PC/13	Cycle Time	Operations	Number of days taken for stock replenishment	Monthly	Financial Year

### **Monitoring and Measurement of Product**

The inward material viz. packing material, office consumables, lab supplies & other material on receipt is verified for quality, quantity and damages. The results of the inward verification are documented. The rejected goods, if any, are identified, segregated and appropriate action is initiated. In the case of the Products, supervisory controls have been identified as critical control points in process charts. Any non conformances noticed during the process will be noted down in the Online Quality Control report. Action will be initiated immediately and supervisory staff verifies the action.

### **Control of Nonconforming Product**

All non-conforming products are identified and controlled, detailing the nature of non-conformance. A review is taken to segregate and take suitable correction. The material is either returned/reprocessed. If the material is reworked/reprocessed the same is indicated in the log sheet and duly inspected. Scrapped material is identified and moved to rejection bays.

### **Analysis of Data**

The company is committed for continual improvement. The quality management system is planned in such a way that the key performances are measured, monitored and analysed, to demonstrate the suitability and effectiveness of the QMS. The data analysis provides information relating to customer satisfaction, product requirement conformity, characteristics and trends of processes and products including opportunities for preventive action and suppliers. These KPIs are reviewed in MRM. The trend charts are used to monitor key performances.

### **Improvement**

#### **Continual Improvement**

The organization continually improves the effectiveness of the QMS through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions, and management review. The functional heads are responsible for monitoring metrics and improve them continually. KPIs are reviewed at defined periodicity by MR. If six continuous “out of controlled points” in a run are noticed, a continual improvement project is identified. Improvement projects are short term in nature. This is an input for the Management Review and a team is identified. The team constitutes people from concerned departments. The team leader and the facilitator are identified for each project. The team meets regularly, collects data, analyse data, identifies root cause, action plan, review actions taken & ensure KPIs meet the target. During management reviews, the improvement project will be monitored and decision to conclude the project as successful / unsuccessful is taken. The project report is archived for future reference.

### **Corrective Action**

The company initiates corrective actions to eliminate the cause of nonconformities in order to prevent recurrence. A documented procedure is in place which defines requirements for reviewing nonconformities (including customer complaints), determines causes of nonconformities, evaluates need for action to ensure that nonconformities do not recur, determines and implements the action needed, records results of action taken and reviews corrective action taken. The Management Representative is responsible for the activity. However the respective functional heads are responsible to take necessary corrective action. All nonconformities and customer complaints are registered. A Corrective Action Request is raised against the concerned function with a copy to the Management Representative. The concerned functional head analyses the non-conformance and takes suitable corrective action which is audited. The customer is suitably appraised. Internal Quality audits identify non-conformance in system & processes. Corrective Action Report is raised on the auditee function, who has to take suitable corrective action, which is audited for effectiveness. KPIs with three continuous out of control points are identified by the MR & a CAR is raised against the concerned functional head. Corrective action is to be initiated by the functional head within three months which is audited for effectiveness. These are inputs for the Management Review meeting. Records are maintained to record all relevant data.

### **Preventive Action**

The organization determines action needed to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions initiated are appropriate to the effects of the potential problems. A documented procedure is in place which defines requirements for determining potential nonconformities and their causes, evaluating the need for action to prevent occurrence of nonconformities, determining and implementing action needed, recording of results of action taken, and reviewing preventive action taken. The Management Representative is responsible for the activity. However the respective functional heads are responsible to take necessary preventive action. Risk analysis will be undertaken for all processes in the organisation. Possible non-conformities are identified & quantified. Based on the controls available and the risks priorities for preventive action will be identified as P1, P2 & P3. The MR raises PAR on P1 risks & suitable preventive action has to be initiated by the functional head, which will be audited for effectiveness. Records will be maintained. This will be an input for the MRM.

### **CONCLUSIONS**

The company has fully established the QMS in line with the ISO 9001:2008 standard and has been able to standardize its processes and products, so much so that its business performance has also doubled and it is now the top exporting company in the country. The implementation of the ISO standards has clearly paid off and has raised the company to international standards so much so that it has become the quality benchmark for the entire country.

### **REFERENCES**

1. ISO 9001:2008, Quality Management Systems, Requirements, International Organization for Standardization, Geneva, 2008.

